Discussion Paper for the Review and Implementation of the Colac Otway Shire Erosion Management Overlay.

FINAL DRAFT REPORT

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1.0 Introduction

1.1 Project Scope

1. The review of the Colac Otway Shire (COS) Erosion Management Overlay (EMO) is a priority action sitting under the Regional Corangamite Soil Health Strategy (CSHS), a framework designed to reduce risk caused by soil degradation processes.
2. EMO1 will address the risk of landslides and EMO2 will address the risk of soil erosion through utilisation of the provisions of the statutory planning process.
3. The review of the COS EMO is a co-investment project between the Corangamite Catchment Management Authority (CCMA) and COS.
4. The COS EMO will adopt and amend a number of transferable outputs derived from the City of Greater Geelong EMO pilot study.

1.2 Objectives

1. To review the EMO and associated documents for the COS.
2. To use the COS EMO to develop outputs which other municipalities within the Corangamite Catchment will be encouraged to adopt for their own EMO.
3. To reduce the number of planning permit applications required because of an Erosion Management Overlay.
4. To reduce the cost of development to landholders by reducing the number of planning permit applications that require a land stability assessment report.

2.0 Benefits of an Erosion Management Overlay

2.1 Responsible Planning Decisions

The obligation for action on issues relating to natural resource management, land degradation and soil health is currently shared between Local Government and CMA's and regulated under a hierarchy of State, Regional and local policy. CMA's have the responsibility to set out land owner duties with respect to managing land and to prepare broad land manage planning and support land protection with detailed projects and programs, particularly where that land is susceptible to degradation process. Local Government controls and directs new land use and development in the landscape having regard to other authority's plans and duties. This is import to enable landowner and developers with the best planning and direction to ensure improvements to landscapes whilst generating homes, farms, villages towns and wealth from the natural landscape. Municipalities are bound and must have regard to State Planning Policy Framework (SPPF), Regional Catchment Strategies (RCS) and Geographic Strategies provisions of the Victorian Planning Provisions. The CMA and Municipality share the broad planning role in some instances but the Municipality is responsible for administering the Planning Scheme. When the Council decides on planning permits as the *Responsible Authority* this role can be sometimes shared because of parallel other state or region authorities policies or activities. This is often formalised through *referral* to these agencies at the time of a planning permit and enables that authority's concerns or directions to be taken on board. This also reduces the need for separate and further permits of consents to be gained.

Both the CMA and Municipality have a duty of care to coordinate their activities and policies and this is doubly important where erosion and landslide risk exists. The landholder also has a duty of care but public agencies have a high duty of care because of their technical and scientific expertise and statutory duties.

The implementation of an EMO within a municipal planning scheme is one specific tool that can be used to address environmental issues arising out of or impacting upon new development. Interrelated issues of land stability, degradation, soil health, water quality and biodiversity can all be brought to bear in

assessing the design, siting and overall proposal to appropriateness of proposals. Whilst an EMO is primarily a tool to regulate development, it can also be used to address issues of infrastructure location, public safety, cultural and heritage issues and offer mapping for strategic planning purposes. Existing development, and development for which a planning permit is not required, will also benefit from the flow effect on knowledge to adjoining land holders and land industries. This leads onto the improved land management practices message that under pin the advice and directions where permits are issued under the overlay. In some cases an EMO can also be used to address current or proposed land use such as agricultural activity. However, this matter has not been canvassed although it is recognised that erosion and as of right land use change are closely related and will eventually need to be examined in each catchment.

2.2 Information Sharing

Public and private liability issues can arise out of situations where poor development design and decision making exists. It is important that responsible authorities are continuously improving their knowledge and decision making procedures. Much of the information relating to land degradation and in particular landslide and erosion now lies within the public domain and needs to be shared and transferred to the professions responsible for land use and development. Significant information sources now include a database being constructed by the CCMA, studies conducted by the University of Ballarat and reports from other State and Federal government bodies such as the former Soil Conservation Authority (SCA). In addition information is also held by the responsible authorities themselves which may not be widely distributed within the organisation itself. This project has sought to align and integrate the best data into clear decision support procedures.

The revision and implementation of an EMO will formalise data standards, assessment methodology and access arrangements by amending the Colac Otway Planning Scheme to include a series of documents (such as data inventories). It is also proposed to establish a centralised publicly accessible web-based system providing ready access to relevant information.

The process of dissemination of information is intended to avoid current issues of uneven access to information for geo-technical experts advising on these issues and to improve the up keep of the data sets as we learn more about the changing landscape. Often data systems such as this can be susceptible to being discarded, ignored or forgotten either by the authorities or those conducting the supporting studies and research.

2.3 Economic

One of the initial economic benefits of a municipality participating in the proposed EMO implementation program lies in sharing of the initial development costs of the program. It is anticipated that significant elements of the scheme developed, comprise a low cost and these in the initial studies can be readily transferred to other municipalities in the regional ensuring a consistent planning and development approach across the catchment. For example, the methodology for erosion risk management developed in the City of Greater Geelong (CoGG) pilot study can be adapted for other shires. Similarly current developmental work planned by COS and the CCMA on a web based information delivery system will benefit CoGG and other shires in the region.

However the major economic benefit of the implementation of an EMO for any municipality will lie in avoiding inappropriate developments in areas of high susceptibility to land degradation. Economic benefit will derive from reduced occurrence of existing or new erosion and its associated impacts both on-site and to receiving environments off-site.

In addition cost benefits will be gained from an anticipated reduction in the number of external peer reviews and associated Victorian Civil Administrative Tribunal (VCAT) arbitration hearings. This particularly applies to developments currently not governed by an EMO or weakly addressing erosion issues under other associated overlays. The targeted risk areas through the EMO will also ensure the developer address land degradation issues at the earliest possible time in the development process and avoid and minimise impacts by following guidelines before planning applications are made.

A Study conducted by the University of Ballarat (Feltham 2005) highlights a significant number of assets within 50 and 100 m of known occurrences of land degradation. Because these mapped occurrences form part of the basis for the final susceptibility maps and associated EMO, it is anticipated that a reduction in inappropriate development adjacent to such infrastructure will occur as a result of the more stringent requirements for development under the newly implemented EMO.

2.4 Environmental

Significant environmental benefit is expected to be derived from the implementation of EMO's throughout the CCMA region by providing water quality benefits through the reduction in landslide and erosion. The newly developed erosion risk management methodology clearly identifies the five asset classes commonly adopted by the CCMA (including the environment, flora fauna and biodiversity) as key elements at risk. This ensures such issues are included in any assessment where a land stability assessment report is required by the EMO.

Another significant benefit of the current investment in the healthy landscape program is that the overall CCMA Soil Health Strategy (and the associated program of EMO implementation) provides a consistent approach throughout the region. This can have significant benefit for the environment where natural processes are not governed by local government boundaries and impacts may be experienced far from the source.

2.5 Social

The implementation of an EMO is also expected to have significant social benefit. This is likely to occur through a reduction in the risk to life from landslide and inappropriate development in such high susceptibility areas. Much of the coastal public spaces in the CCMA region are covered by the existing Colac Otway Planning Scheme EMO and are susceptible to landslide including parts of Otways, and these are particularly under increasing pressure for development.

Consistent and forward looking planning and regulation can reduce and or avoid the potential for loss of life and damage to what are becoming increasingly more expensive coastal dwellings and infrastructure.

3.0 Colac Otway EMO Background

3.1 Background to the current EMO and planning scheme

The following section contains an extract from the final report on Landslide Risk Management prepared by Dahlhaus Environmental Geology for the Colac Otway Shire.

"Within the Shire area, landslide risk management commenced in a formal way in 1979, when the Town and Country Planning Board requested the Geological Survey of Victoria (GSV) to conduct a landslide hazard study of the Otway Ranges (Cooney, 1980). The involvement of the Shire commenced in August 1984 when the State Government approved the Shire of Otway (Ocean Road) Interim Development Order (IDO). The IDO gave the responsibility for planning to the Shire's Planning Officer for residential areas ("Village Zones"), and to the Ministry for Planning and Environment (MPE) in all other areas. Under the conditions of the IDO, applications for planning permits in areas designated prone to landslides were referred to the GSV and the Land Protection Service (LPS, formerly the Soil Conservation Authority (SCA)) for comment. Subsequent restructures of State Government departments, amalgamation of municipalities and changes in planning laws has modified the procedures for landslide risk management in the Shire.

The Colac Otway Shire inherited their landslide risk management procedures from the former Shire of Otway. Under the planning guidelines of the former shire, two special control areas were delineated - land subject to land-slip hazard was designated as Special Control area A whilst land of vegetation significance for the prevention of soil erosion was designated as Special Control Area B.

The issuing of a permit on any land within these special control zones was required for:

- Construction of a building;
- Construction and carrying out any works;
- Alterations to the natural topography ;
- Clearing any vegetation.

Subsequent revision to the Colac Otway Shire Planning Scheme resulted in the production of a series of planning overlay maps. One of these overlays, designated as the Erosion Management Overlay (EMO), incorporated the previous Special Control Areas A and B.

Under this scheme, a Planning Permit is required for buildings and works within the area designated as susceptible to landslides (i.e. the area within the existing EMO). A report detailing the landslide risk is required to be submitted with the Application for a Planning Permit. The report is to be prepared by:

"…a professionally qualified engineering geologist on geotechnical engineer with experience in slope stability problems and whose qualifications, dates of qualifications and appropriate experience must be indicated."

Prior to July 2000, the report was only required to supply a visual assessment of the slope stability of the site and surrounding area supplemented by unspecified additional work as required. The report was also required to advise of one of three conclusions:

- That there are no slope problems and that a permit should therefore be issued without specific guidelines for development of the site;
- That identified slope problems can be overcome by defined means giving guidelines for development of the site allowing the granting of a conditional permit;
- That slope problems are too serious that a permit should not be issued.

The required conclusions left no room for doubt with the onus placed on the engineer or geologist to provide a definitive answer to whether development was allowed or not.

Where the assessment was considered to be inadequate by the Shire a supplementary report or an additional report by a different engineer or geologist (i.e. second opinion) could be requested.

The supplementary or additional report required:

- Mapping of geological and slope features;
- Slope profile measurements;
- Drilling, sampling and laboratory or field testing;
- Mapping or incipient movements and past failures, including creep;
- Groundwater occurrence;
- Stability analysis and conclusion on stability of the land under the conditions of its intended use.

However, the planning scheme offered no guidance on how this additional information was to be used and how resolution of difference of opinions between consultants was achieved. "

3.2 History of the C8 Amendment

Initial discussions regarding the review of landslide risk management under the planning scheme of the Shire were initiated with Mike Ferey in April 1998. Subsequent discussions with Rob Davis and Steve Mitchell recognised the need to expand the study to assess other natural resource management issues under the broader project goal of undertaking a land capability assessment for the shire.

A project proposal was submitted in August 1999 and accepted by Council in September 1999. The Land Capability Assessment project was initially proposed as three year study to provide "relevant information on the Shire's physical environment, for land use planning and assessment".

However, the major component of Stage One was a review of the Shire's landslide risk management due to the significant and sensitive nature of this issue within many parts of the shire. The initial review included a review of the existing risk management practices in the Shire and within other municipalities

throughout Australia. All available previous studies were reviewed and previous geotechnical assessment for planning applications were collated and analysed. Limited historical data was researched but no new investigations of individual landslides were undertaken as part of the initial stage one study. A database of existing mapped landslide was constructed in a GIS format and new data was generate in the form of topographic and climate surfaces.

The initial review of landslide risk management was extended with an interim report submitted in July 2000 and a final report submitted in June 2001. Key recommendations from the reports included:

- An extension to the existing EMO to include all areas of the Shire Susceptible to landslide
- The adoption of the national guidelines published by The Australian Geomechanics Society for landslide Risk Management
- The development of a GIS database incorporating mapped landslides and previous assessments for internal use only.
- The adoption of new planning permit procedures incorporating issues such as provision of public information, consultation of the GIS database to assess applications, the use of a preliminary on-site assessment as a screening tool, requirements for land stability reports, internal requirements for the assessment of reports and compliance issues.
- Changes to the EMO Schedule incorporating the new procedures and exemptions.
- Continuation of research into landslide risk management issues and the fostering of links with adjoining shires and other relevant organisations such a s the CCMA, DNRE and VicRoads.

The major recommendations were subsequently adopted by Council and Amendment C8 was prepared. The amendment went through public exhibition with a series of public meetings conducted throughout March 2003. Submissions on the amendment were accepted by Colac Otway up until May 2003.

The final C8 amendment was then sent to the Minister for approval in late 2003. Upon submission of the amendment to the Minister, the Department of Sustainability and Environment raised two major concerns with the amendment which required a reduction the scope of discretion in determining whether or not a planning permit is required and a greater list of exemptions from the need for permits for buildings and works given the application of the EMO to extensive areas of the municipality.

These changes requested by DSE were incorporated into the amendment which was resubmitted to the Planning Committee of Council on 20th April 2005 where the modifications were adopted. The revised amendment C8 was resubmitted to the Minister in June 2005. COS are currently awaiting approval for this amendment.

4.0 Erosion Management Overlay Proposal

One of the CCMA's aims under its Soil Health Strategy is to assist with the development and implementation of a standard approach to Erosion management Overlays throughout the region. The approach is currently based on the model being developed during the pilot study with the City of Greater Geelong. Key elements of this approach include:

- The revision of existing small scale regional land degradation susceptibility maps (1:100,000). These maps are being combined with additional large scale ortho-photographic mapping of land degradation features and on site mapping by landcare groups to enable refinements of the susceptibility maps.
- The refined susceptibility maps will serve as key background material and will be used to produce appropriate boundaries for a new EMO which will be consistent at a scale suitable for planning (1;10,000).
- The development of a suitable planning process incorporating potential referral authorities and having due regard to individual municipalities resource issues.

- The production of two individual schedules including EMO 1 for landslide and EMO 2 for erosion.
- The production of supporting documentation and reports including bibliography of known sources of data, procedures manuals and public education/information material.
- Assessment of the feasibility and subsequent development of a central data repository for current information reports and databases relating to erosion, landslides and related topics. The aim of such a repository is to assist with information dissemination to the general public, municipalities, referral authorities and consultants and the development of better resourced and more informed reports and information on land degradation processes.
- Inclusion of considerations of erosion, landslide and land degradation within appropriate municipal strategies such as the Municipal Strategy Statement (MSS) and Environmental Management Strategy (EMS).

Colac Otway Shire have long recognised the benefits of better data management and access and as such through the efforts of Greg Slater are currently leading discussion on the feasibility of alternative approaches to data storage and delivery. It is anticipated that such development can be adapted to the broader issue of data management throughout the entire CCMA region and it is proposed to incorporate this work as part of this co-investment proposal.

The current broad Colac Otway EMO overlay (and amendment C8 currently with the Minister) was previously linked to a process aimed at identifying potential low risk site early in the process and removing the onus for detailed geotechnical reports and supporting documentation. A key element of this proposal is the refinement of the existing Colac Otway overlay in order to rationalise the spatial extent of the overlay by removing low risk sites where possible within the limits of the existing data sets. This refinement process is currently being developed and applied to the susceptibility maps for the City of Greater Geelong (Table 1).

Benefits in terms of reduced costs and timeframes will be gained from ongoing work with the City of Greater Geelong aimed at the development of largely standardised planning scheme schedules (EMO 1 and EMO 2) and associated documentation and manuals. It is also anticipated that much of the public information documentation will also be transferable between municipalities.

Table 1: Co-investment proposal between CCMA and COS for 2005/06 to complete the COS EMO.

Output	Delivering Responsibility	CCMA investment	COS investment
Refine the existing EMO overlay, including susceptibility maps for LANDSLIDE and EROSION, field checking, revise line work.	Consultant	$20,000	5,000
Planning Scheme Schedule	Consultant	$2,000	0
COS Procedure and guidelines manual	Consultant	$3,000	0
Public information Pamphlets and Education	DPI	$3,000	0
Data repository and distribution (preferably a single source, easy to sue, web based access with review of data quality and caveats and limitations on data use)	COS	0	$20,000
TOTAL		$28,000	$25,000

5.0 Project Expectations and Commitment

5.1 CCMA Expectations of COS to complete and implement the EMO

The CCMA propose to invest a large proportion into the development of the COS EMO. It is the CCMA's belief that EMOs will reduce the impact caused by landslides and soil erosion on the community, natural resources and the environment especially waterways. As a part of the co-investment process, the CCMA has a number of expectations of COS associated with the program for the implementation of the EMO. These expectations include:

1. The Planning and Environmental departments at COS will be actively involved in reviewing and commenting on the draft EMO within agreed time lines.
2. Reports, data and other information associated with the development of COS EMO will be provided to the CCMA and be available to other municipalities to develop their own EMOs.
3. Data-sharing arrangements for the COS EMO including central data repository and delivery systems are to be discussed and actions agreed to further improve data sharing amongst local government, state government, CCMA and private sectors.
4. Implementation of the COS EMO will involve both EMO1 (landslides) and EMO2 (Soil erosion) with both schedules to be included in an amendment to the Colac Otway Planning Scheme.

5.2 CCMA and DPIs Commitment to Finalise COS EMO

The CCMA are willing to co-invest with COS with the understanding that they are committed to completing the process of EMO implementation. As such the CCMA will assist COS to implement EMO1 and EMO2 where the actions are consistent with the overall objectives of the CCMA.

The CCMA is committed to:

1. Implementing a consistent framework throughout the CCMA region, therefore using transferable outputs derived from the City of Greater Geelong EMO for the COS EMO, and making available transferable outputs proposed for the COS EMO to other municipalities.
2. Referring the draft EMO to all appropriate stakeholders to be reviewed to ensure that it is to the quality needed for endorsement and effective implementation.
3. The development of an effective referral authority process for the EMO that makes the implementation of the schedules simple for planners and does not incur unnecessary extra costs to COS.
4. Facilitating the development of actions that improve data-sharing and data delivery arrangements for the EMO between COS, CCMA and other stakeholders.
5. CCMA will co-invest with COS dollar for dollar (with a $10,000 limit) with any panel hearing costs associated with the EMO consultation process.

6.0 Recommendations

Table 2 outlines the CCMA recommendations for activities needed to complete the COS EMO.

Table 2: Recommendations to complete the COS EMO pilot study.

Recommendation	Time line	Agency leader
1. Conduct a meeting with appropriate COS managers and staff to discuss the proposal to complete the COS EMO.	30th August, 2005	CCMA/DPI
2. Conduct meetings to develop actions aimed at improving data-sharing arrangements for the EMO between CCMA, COS and other key stakeholders.	By September 2005	CCMA/DPI
3. CCMA to formally recommend to COS to make amendments to their MSS to include the EMO.	By September 2005	CCMA
4. Conduct a meeting between CCMA, DSE, City of Greater Geelong and Colac Otway to discuss possible pilot schedules associated with each of the EMOs.	By October 2005	CCMA
5. Present to a Councillors meeting on the development of the COS EMO to gain a Council resolution to proceed with an amendment to the Planning Scheme.	By October 2005	COS
6. A formal agreement between the CCMA and COS on their commitment for the completion and implementation of the COS EMO to be signed off.	By October 2005	CCMA & COS
7. Develop a project brief and employ a consultant to deliver the COS EMO.	By November 2005	CCMA/DPI
8. Planning and environmental staff from COS to provide comment on the draft EMO.	By April 2006	COS
9. Hold a workshop to discuss detailed issues with both the schedule and associated documents.	By April 2006	CCMA/DPI
10. Council to consider draft EMO amendment documentation and resolve to exhibit	By May 2006	COS
11. DSE to authorise exhibition of Planning Scheme Amendment	By June 2006	DSE / COS
12. Amendment Exhibition	July / Aug 2006	COS
13. Council to consider submissions and refer submissions to a panel if necessary (see section 23 of P&E Act)	September 2006	COS
14. Panel hearing	December 2006	COS / CCMA / DPI / DSE
15. Panel to prepare report	January / Feb 2007	Panel
16. Council to consider panel report and approve amendment	March 2007	COS
17. DSE / Minister to approve amendment	April / May 2007	DSE / Minister
18. Council to update planning scheme and commence implementation of EMO	May 2007 (upon gazettal)	COS